

Date:

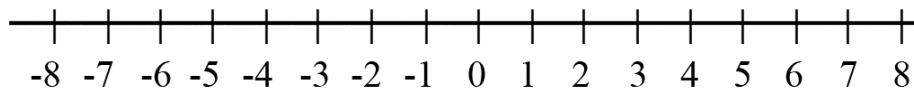
Grade 7: Math

2.1 Integers- Addition and Subtraction

- Definition: Integers are whole numbers along with positive or negative signs.
- Examples: 0, +1, -1, +2, -2, +3, -3
- Note: 0 is neither positive or negative.
- Integers can be used to represent the measure of opposite values.

Positive Values	Negative Values
Positive temperature	Negative temperature
Tax	Discount
Above sea level	Below sea level
Stocks going up	Stocks going down
Deposit	Withdrawal
Increase	Decrease
Moving right	Moving Left
Moving up	Moving down
Moving forward	Moving backward

- Integers are usually represented by a number line.



- Some facts about the number line.
- The number 0 is in the centre.
- All numbers to the right of 0 are positive.
- All numbers to the left of 0 are negative.
- Any number is bigger than all numbers to its left. [Numbers on the right are greater than numbers on the left.]

1. Circle the bigger integer and then use appropriate symbols.

- a) -1 $+1$ b) 0 -100 c) -13 -14 d) -23 -4
e) 7 -17 f) -8 -7 g) -16 -12 h) -6 -2

2. Assign a positive or negative integer to the following.

- The temperature yesterday was -5°C and today it is -8°C .
- Stocks open at 50 points and close at 65 points.
- Jack deposits \$250 in his bank account.
- A mountain peak is reported to be 250 m above sea level.
- Katie withdraws \$50 from an ATM.
- Jonah owes his brother 25 candies.
- Sofia scuba dives 50 m under the sea level.
- Simon moves 4 steps forward.

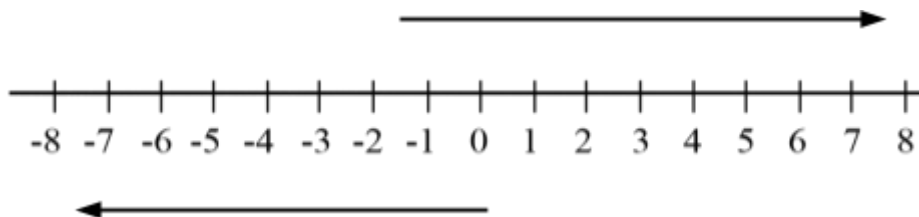
3. List all integers between the numbers 4 and -4

4. Add the following integers.

- a) $(-4) + (+3)$ b) $0 + (-100)$ c) $(-23) + (-4)$ d) $(-23) + (-4)$
e) $(+7) + (-17)$ f) $(-8) + (-7)$ g) $(-46) + (8)$ h) $(-6) + (-2)$

5. Extend the pattern to 3 more terms and then describe the pattern in words,
 $-40, -43, -46, -49, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$.

❖ Adding and Subtracting Integers Using a Number Line



- When **ADD**ing we count to the **RIGHT**.
- When **SUBTRACT**ing we count to the **LEFT**.
- Sign simplification:

$+$	$(+)$	$=$	$+$
$+$	$(-)$	$=$	$-$
$-$	$(+)$	$=$	$-$
$-$	$(-)$	$=$	$+$

- Rewrite the expressions below with simplified signs and then evaluate.

1. $(+ 5) + (+ 2) =$

3. $(+ 6) - (- 4) =$

5. $(- 8) - (- 5) =$

7. $(+ 4) - (- 4) =$

9. $(- 4) - (- 4) =$

2. $(+ 1) - (- 7) =$

4. $(- 12) - (+4) =$

6. $(+ 16) - (- 14) =$

8. $(- 20) - (+ 4) =$

10. $(+ 11) - (- 6) =$

- Homework: Complete this handout and do problems 1-6,8 and 10ace , on page 354